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ABSTRACT

Findings of a study that examined the relationship between school climate and student persistence are presented in this paper. Two surveys were administered to teachers and students at 10 Austin, Texas, high schools. Three factors of school climate were investigated--teachers as professionals, goals for student learning, and school discipline and management. Findings indicate that schools with positive climates had higher achievement and lower dropout rates. The school climate variables most significantly related to student achievement were teacher expectations for student success and teachers' instructional goals. The findings support the idea that school climate is an important variable in school improvement. Two tables and five figures are included. The appendix contains school-climate survey items by factor. Five figures and two tables are included. (LMI)

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SCHOOL CLIMATE CORRELATES WITH STUDENT PERSISTENCE TO STAY IN SCHOOL

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INTRODUCTION

School climate has been a topic of interest for a long time but has most recently been connected with effective schools research. Current restructuring efforts around the country are designed to increase school effectiveness. Many of these efforts use improved school climate as a stepping stone to improved student achievement. In some cases, improvement of school climate is the main goal, with the improvement of student achievement an assumed outcome. In other cases, specific aspects of school climate related to student achievement are the main concern.

Because there is no standard definition of what school climate is, many different instruments or surveys exist to measure this concept. Arter (1987) provides a good overview of standard instruments currently available. School climate instruments usually examine either the overall conditions at a school or the climate of particular classrooms.

School climate, as measured by most instruments, is a general perception of conditions at a school and is not measured in terms of absolute quantities. Most climate questionnaires ask respondents to rate particular areas based upon their own expectations and perceptions of the environment. Specific questions, for example asking how often (e.g. one, two, three or more times per day) some type of event occurs, are less common than questions asking respondents to "rate the quality" of various aspects of the school. School climate items include, among others, topics such as teacher morale, principal leadership style, condition of the school and grounds, and community involvement in the schools.

SCHOOL CLIMATE SURVEYS

Many school districts design and construct school climate questionnaires to answer specific questions relevant to that district. Wilson and McGrail (1987) suggest that when choosing or constructing a school climate questionnaire, designers should consider the following four issues:

1) What is the purpose of administering a school climate questionnaire? Climate instruments can be used to evaluate specific programs, describe schools, compare schools, or identify specific strengths and weaknesses as a basis for planning for improvement.

2) Which specific areas of school climate are to be examined? For example, one set of questions may measure community involvement while another may look at the leadership style of the principal.

3) Whose opinions and perceptions will be sought? Perceptions among teachers, administrators, students, parents, and other staff have been found to vary.

4) How should the data be gathered and reported? Many school climate questions can be sensitive or controversial and require special administration procedures. Also, the results of the questionnaires must be reported in some appropriate and meaningful form. For example, scores could be reported as the percent of respondents giving a positive answer or as score transformed to reflect distance from the district mean.

Data from two survey instruments were used in this study:

(1) A 24 item anonymous survey of campus professionals (teachers and administrators). No individual data is collected. Therefore, no analysis of ethnic, subject area, or other subgroups is possible. This survey is given to teachers and administrators. However, the results in this study include only responses from teachers.

(2) Some items from a survey of students that could be categorized as school climate items.

THREE FACTORS OF THE ANONYMOUS SURVEY OF TEACHERS

The results contained in this study concerning the anonymous survey of professionals will be presented in terms of three factors. These three factors were the result of a previous factor analysis of the survey instrument. The factors are:

Factor 1: Teachers as Professionals. This factor includes items related to job climate, principal leadership, and working conditions.

Factor 2: Goals for Student Learning. Items in this group concern conditions conducive to student learning and achievement.

Factor 3: School Discipline and Management. This group of items is mostly concerned with safety and student behavior.

TEACHER AND STUDENT PERCEPTIONS OF SCHOOL CLIMATE

In order to examine similarities and differences between the perceptions of students and teachers, two items on the student survey were compared with two similar items on the teacher survey. Although the items were not identical, they were similar enough to be compared. The first pair of items asked about student behavior on campus. The second pair

asked about the general school climate in relation to learning on the campus. On both pairs of items the teachers were much more positive than the students. However, it should be noted that teachers were not given a "neutral" response option while students were given that option.

A correlation analysis was performed using the 10 high schools to see if teachers and students agreed in the relative ratings given to their campus. In other words, when teachers rate their campus high in relation to other teachers, do students also rate their campus high in relation to other students?

The first pair of items are as follows:

Teachers: "Overall, students are well behaved in this school."

Students: "Most students in my school are well behaved."

The responses of teachers and students on this pair of items were highly correlated ($r=.79$).

Figure 1 below illustrates the relationship between the following items:

Teachers: "Our school has a safe climate."

Students: "This school is a safe and secure place to learn."

These two items were also highly correlated ($r=.87$).

[FIGURE 1]

Results of this analysis indicate that there is a high level of agreement between teachers and students on these two particular items. As an indirect check on these results, two dissimilar items were compared, to verify that students and teachers were not responding to some more general factor; in other words, to check to see that individuals did not answer all items the same way, no matter what the item asked. The two dissimilar items compared concerned students' views of general climate and teachers' views of performance appraisals on their campus.

No relation was found between the dissimilar items. This indicates that on the items asking similar questions, students and teachers hold similar perceptions of their school's climate. This similarity holds even though teachers are much more positive than students in their responses.

SCHOOL CLIMATE SCORES, SES, AND DROPOUT RATES

Below are summary statements concerning the relationship among school climate, dropout rates, and socioeconomic status (SES). Dropout rates and school climate scores used in this section were for the 1990-91 school year. An estimate of the family income of students was used as the SES indicator. The school climate score used here is a standardized score. This standardized score is a transformation of the school climate responses into a number with a range of about 1 to 10 and with a mean of 7.

There a relationship between the reported climate at a school and the dropout rate for that school.

Figure 2 shows the relationship between high school dropout rates and Factor 2 of the school climate survey. The correlation illustrated is $r=-.84$ ($p<.05$). Figure 2 illustrates that when school climate scores are high (more positive) dropout rates are low, and when school climate scores are low (less positive) dropout rates are high.

Dropout rates also correlated highly with Factor 1 ($r=-.71$, $p<.05$) and with Factor 3 ($r=-.74$, $p<.05$).

[FIGURE 2]

School climate is related to the general SES of the school.

The following correlations indicate the strength of the relationship between SES and the three school climate factors.

[TABLE I]

The negative correlations above indicate that when the percent low income at a school is high, the school climate scores are low. Also, correlations between SES and climate scores are greatest at the high school level. As shown in Table 1, SES is most strongly related to school climate at the high school level than at other grade levels.

Figure 3 illustrates the relationship between percent low income and Factor 2 (goals for student learning) of the school climate survey.

[FIGURE 3]

There is also a relationship between dropout rates and SES.

These data show a correlation of $r=.68$ ($p<.05$) between dropout rates at high school and SES.

When SES is controlled for, is there still a relation between school climate and dropout rates?

We know that school climate and SES are both related to the dropout rate. If we could hold SES constant or look at the relation between school climate and the dropout rate, taking into account that SES also plays a great part, will we still find a relationship?

A partial correlation analysis was performed on the data. School climate scores were correlated with dropout rates with the effect of SES partialed out. Factor 2 was still highly correlated with dropout rates. Correlations of Factor 1 and Factor 3 were still fairly large but not statistically significant. This means that even when SES is taken into account, school climate is still related to dropout rates. This is especially true for Factor 2 (goals for student learning).

[TABLE II]

School climate is a better predictor of dropout rates than SES.

We know that even with the effect of SES removed there is still a relationship between school climate and dropout rates, but which one (SES or school climate) is most highly related?

Three multiple regression analyses were performed on the high school data. SES and one of the school climate factors were used as predictors in the model. Climate scores were the better predictor of dropout rates in all three cases. The same analysis was performed using middle school dropout rates and school climate. At the middle school level, school climate was also the better predictor in all three cases.

A multivariate analysis of variance was performed in order to determine how much Factor 2 of the school climate survey and SES contribute to the correlation with dropout rates. Figure 4 shows the amount of variance in 1990-91 dropout rates that can be accounted for (or predicted) by school climate and SES. Since school climate and SES are also correlated, the amount of variance accounted for by each overlaps with the other (42%). If we look at school climate, the amount of variance accounted for is 71% (42% plus 29%). If we look at SES, the amount of variance accounted for is 46% (42% plus 4%). The unique variability accounted for by school climate is 29%, that is, the amount of variance not already accounted for by SES. The unique variance accounted for by SES is only 4%.

[FIGURE 4]

Studies of school climate and scores on standardized achievement tests (e.g., Gottfredson & Gottfredson, 1989, and van der Sijde, 1988) have revealed a relationship between school climate and achievement. This relationship holds even after SES and other demographic variables have been controlled for. In the district under study, school climate scores have been found to be related to scores on a norm-referenced achievement test.

For each student, a residual score was produced that adjusted for factors such as previous achievement, gender, ethnicity, income level, age in grade, and limited English proficiency. Residual scores for high schools were computed in each subject area of the ITBS/TAP (Iowa Tests of Basic Skills/Tests of Achievement and Proficiency) and NAPT (Norm-Referenced Assessment Program for Texas). The residuals for each student were averaged to produce a score for the school.

These scores were correlated with school climate scores for the 10 high schools. Figure 5 illustrates the correlation ($r=.56$, $p<.10$) between mathematics scores and Factor 2 (Goals for Student Learning) of the school climate survey.

[FIGURE 5]

CONCLUSIONS

The results contained in this study suggest that differences in the average achievement gains and the dropout rate of students in a school are related to the learning and working conditions at that school. In other words, at schools where there is a positive school climate, there is also a higher rate of learning and a lower dropout rate.

The results contained in this study support the idea that school climate should be an important variable of interest in the effort to improve schools. Other research done in the district under study (Paredes, 1991) indicates that school climate variables such as staff morale, safety concerns, and student behavior concerns are important to the achievement of students and the mission of the school district. However, the school climate variables most highly related to student achievement are teacher expectations for student success and the instructional goals of teachers. "Effective schools research" reaches similar conclusions.

"The effective school research strongly supports that schools establish and maintain high expectations and standards for all students and focus on helping them all meet those expectations." In contrast, research on at-risk youth shows that they are often directed and funnelled to programs and courses that have special, reduced expectations for the academic performance of the students.

Research on at-risk youth shows that "at-risk youth are often characterized by a lack of engagement in learning. The effective schools research emphasizes holding the expectation that all students are involved in their own learning and that all students understand and respect the fact that school is a place dedicated to learning." (Druian & Butler, 1987).

Tuck found in a study of dropouts that the greatest factor interfering with continuation with a high school education was the classroom instructional climate. This factor was also

responsible for the higher level of absenteeism among the retained dropouts. Yet, less than half of the secondary school administrators (49.2%) felt that school problems contributed to their leaving (Tuck, 1989).

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APPENDIX

School Climate Items by Factor
(factor loadings are in parentheses)

Factor I: Teachers as professionals

- The principal is willing to discuss problems with professionals. (.77)
- My decisions as a professional are supported and respected by my campus administrator(s). (.76)
- The channels of communication among the faculty, administrators, and other staff at my building are open and adequate. (.71)
- The resolution of conflict or problems is addressed positively in my school. (.71)
- There is collaborative planning and decision making in my school. (.64, II:.40)
- Staff achievements are recognized. (.62)
- The morale of this staff is generally high. (.61)
- Job performance appraisals on this campus are fair and representative of actual job performance. (.59)
- Our faculty meetings are well planned and productive. (.59)
- New school policies are explained to me to my satisfaction. (.58)
- My continued growth as a professional is supported by staff development/training provided through my campus. (.51)
- An effort is made to keep paperwork required by my campus to a minimum level. (.49)

Factor II: Goals for student learning

- Our school staff believes and demonstrates that all students can attain mastery. (.65)
- Our school staff has high expectations for success. (.62)
- Our school has a clear and focused mission through which our entire staff shares an understanding and commitment to school goals. (.61)
- Our school staff works together to improve instruction (.59)

- At our school there is frequent monitoring of student progress. The results of assessments are used to improve individual student proficiency. (.57)
- Our classrooms are characterized by students actively engaged in learning. (.54, III:.41)
- Our school has positive relations with the home and school community. (.42, III:.39)

Factor III: School discipline and management

- Overall, students are well behaved in this school. (.64)
- Our school has a safe climate. (.61)
- Our school has an orderly, purposeful, businesslike climate. (.61)
- The general school climate is conducive to learning. (.61, II:.42)

The following item did not load highly on any of the factors:

- Adequate resources (e.g., textbooks, teacher guides, and other materials) are available to me.

Figure 1

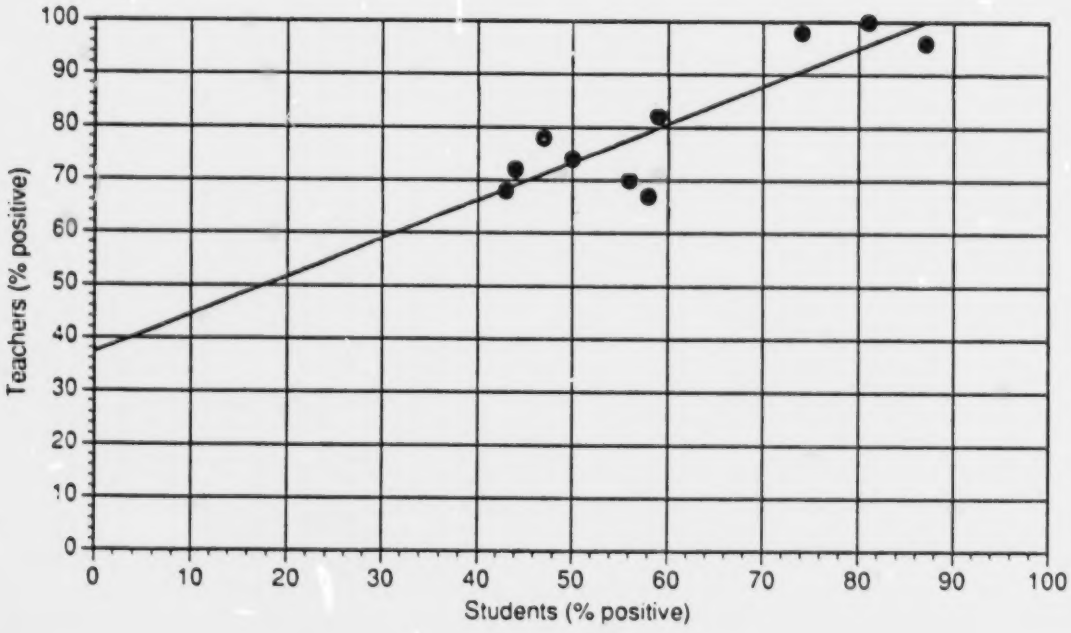
Teachers (% positive)
Students (% positive)
0
10
20
30
40
50
60
70
80
90
100

Figure 2

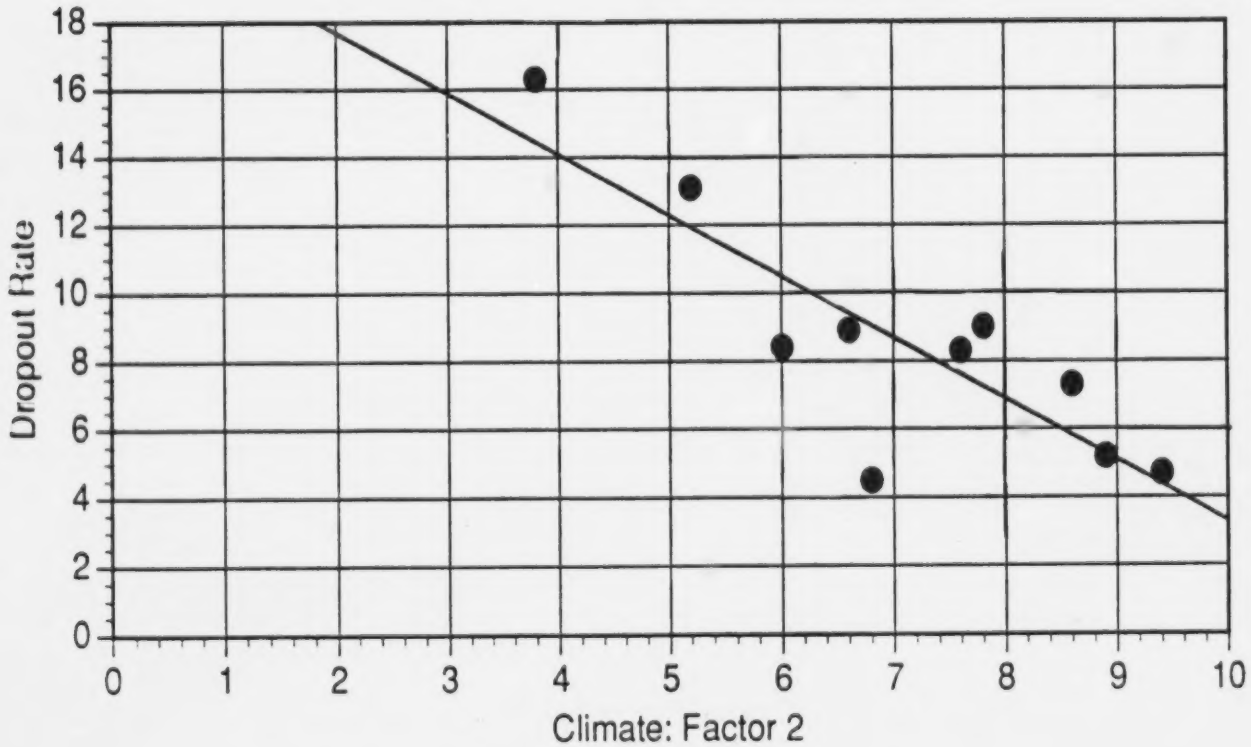
Dropout Rate
18
16
14
12
10
8
6
4
2
0
0
1
2
3
4
5
6
7
8
9
10
Climate: Factor 2

Figure 3

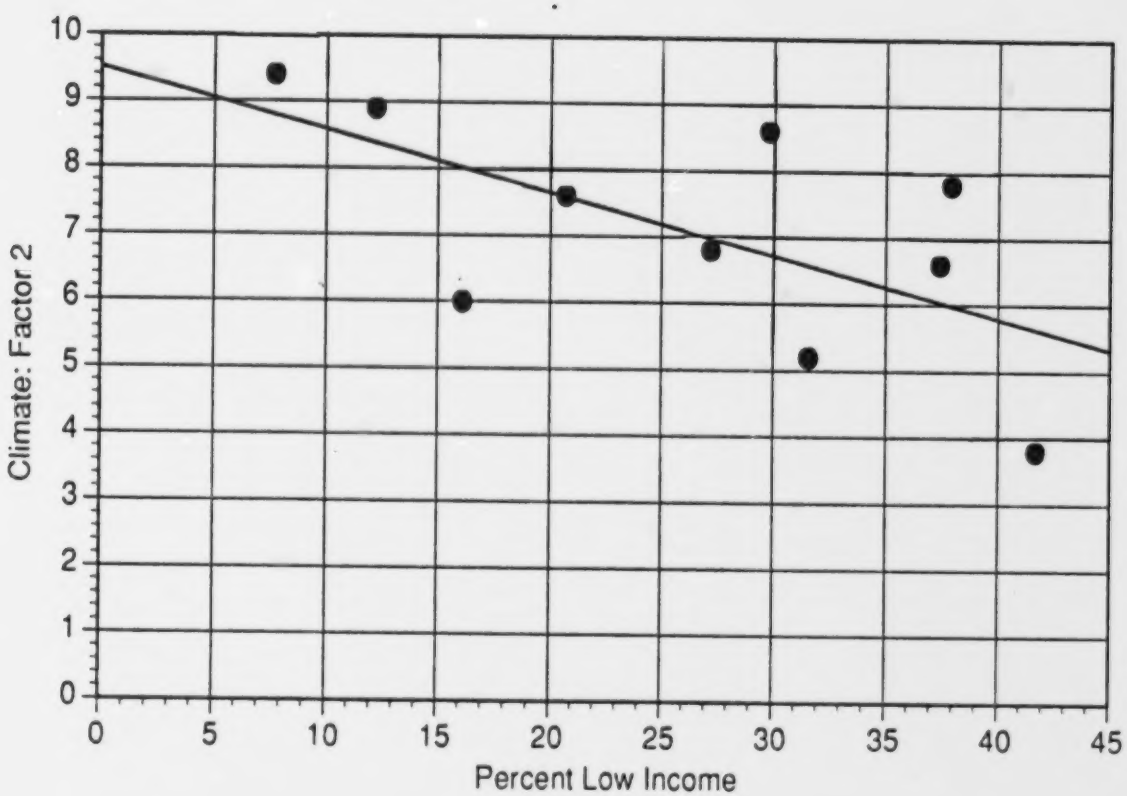
Climate: Factor 2
Percent Low Income
0
1
2
3
4
5
6
7
8
9
10
0
5
10
15
20
25
30
35
40
45

Figure 4

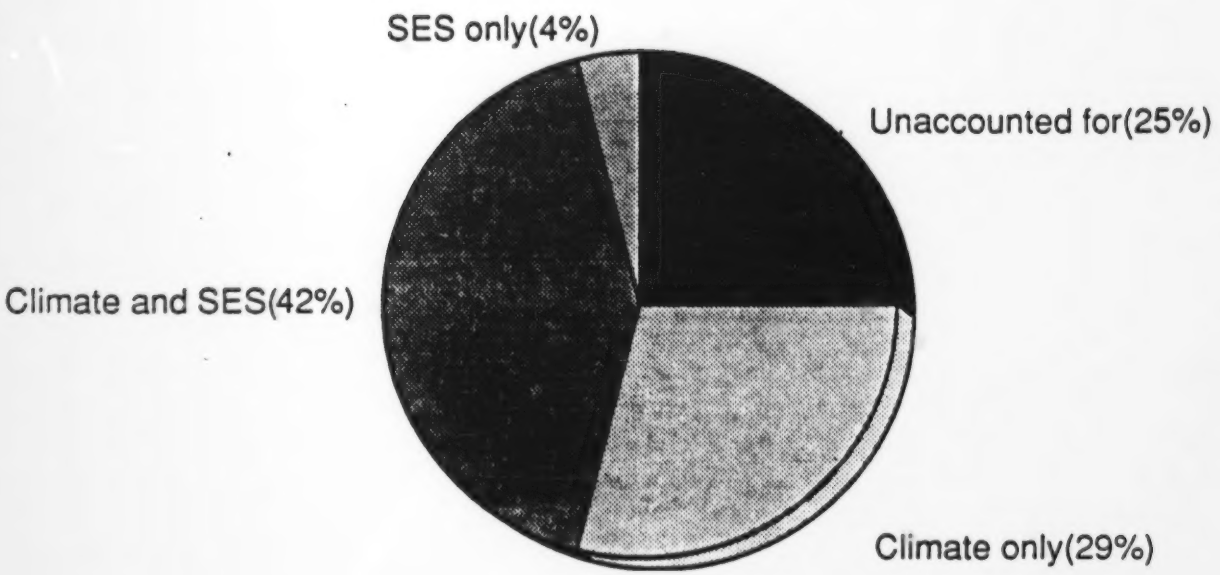
SES only(4%)
Unaccounted for(25%)
Climate and SES(42%)
Climate only(29%)

Figure 5

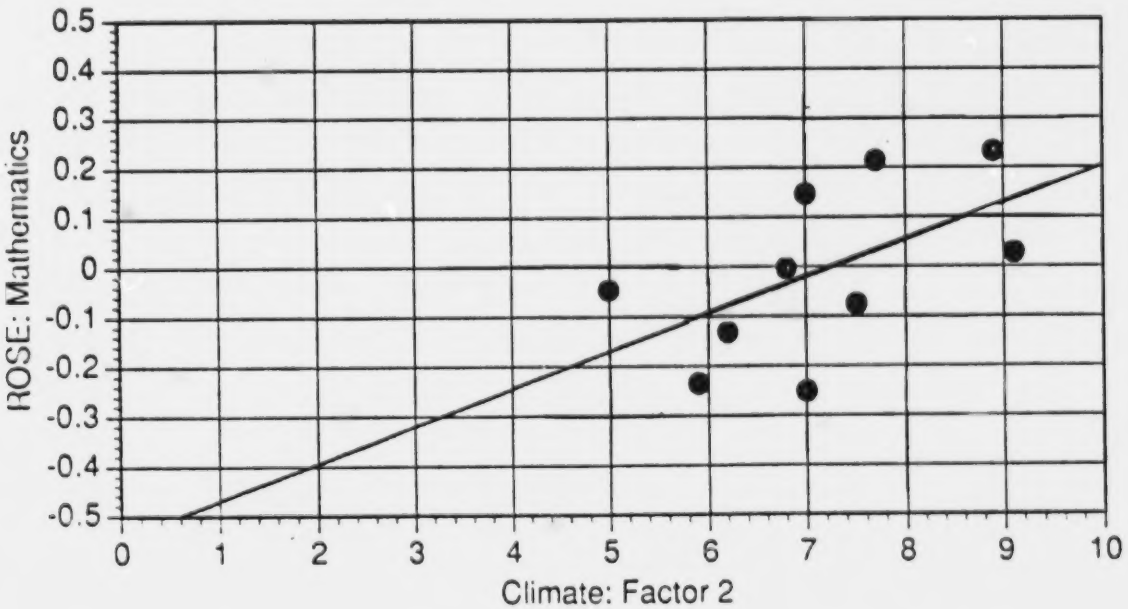
0.5
0.4
0.3
0.2
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
ROSE: Mathematics
0
1
2
3
4
5
6
7
8
9
10
Climate: Factor 2

Table I

Correlation of School Climate with SES

	Factor 1	Factor 2	Factor 3	N
Elementary	-.29*	-.51*	-.43*	65
Middle School	-.27	-.22	-.30	13
High School	-.51	-.70*	-.76*	12

* = significant at p<.05

Table II

Correlation of Dropout Rate with School Climate

	Factor 1	Factor 2	Factor 3
Dropout and Climate	-.71*	-.84*	-.74*
SES removed	-.55	-.74*	-.48

* = significant at $p<.05$